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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,057	04/08/2004	Katsuhito Nishimura	723-1495	7340

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ARLINGTON, VA 22203

EXAMINER
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CRAWFORD, JACINTA M

ART UNIT	PAPER NUMBER
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2628

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03/31/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/820,057	Applicant(s) NISHIMURA, KATSUHIITO	
	Examiner Jacinta Crawford	Art Unit 2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>04/08/2004 and 07/23/2007</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Numaoka (US 2001/0038386) in view of Kaji (US 6,501,568) and Minoru (JP 2000-202162).

As to claim 1, Numaoka discloses a storage medium for storing an image generating program which causes a computer to generate a display image used for displaying a plurality of objects placed in a two-dimensional or three-dimensional virtual space ([0004], lines 13-21; Figure 1), wherein the image generating program causes the computer to function as: database storing means for storing data of the objects (Figure 1, element 12); position storing means for storing positions of the objects in the virtual space (Figure 1, elements 6 and 7); barycenter determination means for determining a

barycenter of the objects based on the data and the positions of the objects (Figure 1, elements 5 and 8); and display image generating means for generating a display image (Figure 1; [0020] thru [0027]).

Numaoka discloses a 3-D object space database for storing data about the object to be acquired by the virtual camera to be used to produce a 3-D resultant image to be displayed [0027]. Numaoka differs from the invention defined in claim 1 in that Numaoka do not disclose "weights" of an object. Numaoka also does not expressly disclose the barycenter lies in approximately a center of the display image.

Kaji discloses objects having an "attention degree" which is determined based on numerous factors such as distance from camera, size, etc. (column 4, line 10 thru column 5, line 3). Therefore, "weight" is interpreted as "attention degree." Kaji disclose a storing means for storing weights (column 3, lines 25-28).

It would be have been obvious to one of ordinary skill in the art at the time of the invention to modify Numaoka's 3-D game system with Kaji's "weights" of objects in a 3-D virtual space to determine a level of focus on a particular object so that the particular object can be displayed correctly within the 3-D space among other objects to create a more realistic and balanced scene.

Minoru et al. disclose the barycenter lies in approximately a center of the display image (Drawing 6: Minoru terms "barycenter" as "center-of-gravity point").

It is obvious that the barycenter lies in the center of the image since by definition "barycenter" is the point between two objects where they balance each other. Also, barycenter relates to the center of gravity.

As to claim 2, Numaoka modified with Kaji and Minoru disclose the storage medium wherein an object to be displayed preferentially has a heavier weight than other objects (Kaji, the object having a heavier "weight" is considered the target object; Figure 2 shows Object B with the highest attention degree; see also Figure 3 where Object B is closer than Objects A and C).

As to claim 3, Numaoka modified with Kaji and Minoru disclose the storage medium wherein a heaviest weight is assigned to a player character which is operable by a player with operation means (Kaji, column 3, lines 10-21 notes player to operate game; column 4, lines 10 thru column 5, line 3 note how weights are assigned to objects; it would be obvious that a main player character would have a higher weight in comparison to other objects or players

since the focus on a screen is more on that player).

As to claim 4, Numaoka modified with Kaji and Minoru disclose the storage medium wherein a level of importance is previously provided for each object (Kaji, column 5, lines 14-18; NOTE: the "attention degree" is also considered "level of importance" since the attention degree is based on a number of factors noted in column 4, line 10 thru column 5, line 3), and the image generating program further causes the computer to function as weight associating means for assigning a heavier weight to the object for which a higher level of importance is provided compared to other objects (Kaji, Figure 2 shows Object B with the highest attention degree; Figure 3 shows Object B is closer than Objects A and C).

As to claim 5, Numaoka modified with Kaji and Minoru disclose the storage medium wherein a weight equal to or greater than a sum of weights of objects other than the player character is dynamically assigned to the player character (Kaji, Figure 2 notes the "attention degree" is greater than the weights of the other Objects).

As to claim 6, Numaoka modified with Kaji and Minoru disclose the storage medium wherein, as the barycenter determination means (Numaoka, Figure 1, elements 5 and 8), the image generating program causes the computer to

determine a barycenter of objects placed within a predetermined area, which is a portion of the virtual space (Numaoka, Figure 2; Kaji, Figure 4).

As to claim 7, Numaoka modified with Kaji and Minoru disclose the storage medium wherein if a barycenter determined by the barycenter determination means lies outside a predetermined allowable limit which is centered around specific one object of the plurality of objects, the image generating program causes the computer, as the display image generating means, to generate a display image in which an intersection point of a line segment connecting the barycenter and the specific one object and an outer edge of the allowable limit lies in approximately a center of the display image (Kaji, Figure 3; column 6, lines 1-15).

As to claim 8, Numaoka modified with Kaji and Minoru disclose the storage medium wherein the virtual space is a three-dimensional virtual space (Kaji, column 1, lines 31-32; Numaoka, [0004], line 13-15), and the image generating program causes the computer, as the display image generating means, to generate a display image using a virtual camera whose sight point is the barycenter (Numaoka, [0023] thru [0027]; Minoru, Drawing 6).

As to claim 9, Numaoka modified with Kaji and Minoru disclose the storage medium wherein a weight of specific one object of the plurality of objects

changes in accordance with a position of the virtual camera (Kaji, column 4, line 10 thru column 5, line 3; Numaoka, Figure 2; Minoru, [0040] thru [0043]).

As to claim 10, Numaoka modified with Kaji and Minoru disclose the storage medium wherein the closer a distance between the virtual camera and the sight point becomes, the heavier a weight of the specific one object becomes (Kaji, column 5, line 26 thru column 6, line 29).

As to claim 11, Numaoka modified with Kaji and Minoru disclose the storage medium wherein the virtual space is a three-dimensional space (Kaji, column 1, lines 31-32; Numaoka, [0004], line 13-15), and the image generating program causes the computer, as the display image generating means, to generate a display image by bringing the sight point of a virtual camera closer to the barycenter determined by the barycenter determination means at a constant rate (Numaoka, [0023] thru [0027]; Kaji, column 6, lines 15).

As to claim 12, Numaoka discloses a game device for generating a display image used for displaying a plurality of objects placed in a two-dimensional or three-dimensional virtual space, comprising: database storing means for storing data of the objects (Figure 1, element 12); position storing means for storing positions of the objects in the virtual space (Figure 1, elements 6 and 7); barycenter determination means for determining a barycenter of the objects



based on the data and the positions of the objects (Figure 1, elements 5 and 8); and display image generating means for generating a display image in which the barycenter lies in approximately a center of the display image (Figure 1; [0020] thru [0027]).

Numaoka discloses a 3-D object space database for storing data about the object to be acquired by the virtual camera to be used to produce a 3-D resultant image to be displayed [0027]. Numaoka differs from the invention defined in claim 12 in that Numaoka do not disclose “weights” of an object. Numaoka also does not expressly disclose the barycenter lies in approximately a center of the display image.

Kaji discloses objects having an “attention degree” which is determined based on numerous factors such as distance from camera, size, etc. (column 4, line 10 thru column 5, line 3). Therefore, “weight” is interpreted as “attention degree.” Kaji disclose a storing means for storing weights (column 3, lines 25-28).

It would be have been obvious to one of ordinary skill in the art at the time of the invention to modify Numaoka’s 3-D game system with Kaji’s “weights” of objects in a 3-D virtual space to determine a level of focus on a particular

object so that the particular object can be displayed correctly within the 3-D space among other objects to create a more realistic and balanced scene.

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### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacinta Crawford whose telephone number is (571) 270-1539. The examiner can normally be reached on M-F 8:00a.m. - 5:00p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Xiao Wu can be reached on (571) 272-7761. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMC



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SUPERVISORY PATENT EXAMINER